



Waves

Focus: Physical Science

Grades K-4

Background:

The basis for this lesson is to enlighten students to the different areas of waves (ex, light waves, microwaves, sound, water and radio waves), to introduce the forces, the differences and similarities behind each wave, and to explain wave motion in space. Our goal is to enhance students knowledge base and while providing real world examples of how waves operate.

Objectives:

Students will :

- ✓ Apply prior knowledge to analyze the structure of a wave.
- ✓ Observe an actual wave and interpret what they see.
- ✓ Demonstrate how to create a wave using energy.
- ✓ Describe in their own words the process that takes place when creating a wave.
- ✓ Describe how important total involvement is when working on a project.
- ✓ Learn the parts common to all waves.
- ✓ Make a hypothesis using the scientific method.

Learning outcomes:

Learning outcomes from this lesson parallel the 4th grade Ohio proficiency test.

- ✓ Select instruments, make observations and/or organize observations of an event, object or organism.
- ✓ Identify and/or compare the mass, dimensions and volume of familiar object in standard and/or non-standard units.
- ✓ Analyze a series of events and/or simple daily or seasonal cycles and predict the next likely occurrence in the sequence.
- ✓ Evaluate a simple procedure to carry out an exploration.
- ✓ Identify and/or discuss the selection of resources and tools used for exploring scientific phenomena.
- ✓ Demonstrate an understanding of safe use of materials and/or devices in science activities.
- ✓ Identify characteristics of a simple physical change.



Waves Cont.

Lesson #1: Overview

✓ Explanation:

- Discuss the common features of various types of waves (radio waves, microwaves, sound waves, water waves and light waves).

✓ Activity:

- Break students into groups.
- Give each group a jump rope and meter stick.
- Have them place the rope on the floor.
- Have one child hold one end stable and the other move their end forming a wave in the speeds. Slow, moderate, fast.
- Finally have them measure each speed by measuring the distance between each crest.